

ABSTRACT OF THE DISCLOSURE

The invention provides a fuel cell system, which has a humidifying apparatus to supply the sufficient moisture to the solid electrolyte membrane of a fuel cell and is capable of preventing the mixture of fuel and oxidant gases in the apparatus. The hydrogen gas supplied to the anode of the fuel cell is humidified in the first humidifier and the air Ad supplied to the cathode is humidified in the second humidifier. The first humidifier has the non-porous water permeable membrane, which is permeable only to the moisture of the cathode off-gas discharged from the cathode of the fuel cell, on the other hand the second humidifier has the porous water permeable membrane, which is permeable to the moisture of the cathode off-gas.